

Aphaniotis nasuta (de Jong, 1930), a Junior Synonym of *A. ornata* (Van Lidth de Jeude, 1893) (Squamata: Agamidae)

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Abstract: Morphological comparisons of available types of the two snout-ornamented agamids from northern Borneo, *Aphaniotis ornata* and *A. nasuta*, failed to show any substantial differences. Careful examination of original descriptions of these nominate taxa also yielded no discriminant characters. Thus, although the holotype of *A. nasuta* was not detected in our survey of various museum collections, we are sure that it is appropriate to synonymize this nominate species with *A. ornata*.

Key words: *Aphaniotis nasuta*; *Aphaniotis ornata*; Agamidae; Synonymy; Borneo

INTRODUCTION

Van Lidth de Jeude (1893) described *Japalura ornata* on the basis of a female agamid with long limbs and a rostral appendage from near Sandakan Bay, North Borneo (i.e., Sabah, Malaysia). He assigned this species to *Japalura* chiefly because of the presence of an oblique fold in front of the shoulder. Later, de Jong (1930) described another long-limbed, snout-ornamented agamid species, *Japalura nasuta*, on the basis of six specimens also from North Borneo. He, however, did not compare this species with *J. ornata*, nor

even mention the latter.

In his doctoral dissertation, Moody (1980) made drastic changes in the classification of the family Agamidae, which involved translocations of *ornata* and *nasuta* from *Japalura* to another genus, *Aphaniotis*. He did not mention any concrete reason for such rearrangements, but it is almost certain that these and other changes proposed in his taxonomic list (given as Appendix A) reflect his morphological redefinitions of genera resulting from phylogenetic analyses of the whole family (Moody, 1980).

Despite the ambiguity regarding the validity of *nasuta* in the presence of *ornata* (see above), almost no one subsequent to de Jong (1930) has addressed this taxonomic problem, and only Manthey and Grossmann (1997) pointed out the necessity for

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the clarification of their differences. Thus, both *ornata* and *nasuta* have been literally regarded as valid species of *Japalura* (e.g., Wermuth, 1967), or of *Aphaniotis* (e.g., Welch et al., 1990; Welch, 1994).

Recently we examined type specimens of both of these species. The Results of comparisons strongly suggest that these nominate species are actually conspecific.

MATERIALS AND METHODS

The holotype of *A. ornata* (RMNH 4344:

Fig. 1a) and a paratype of *A. nasuta* (SMF 78702: Fig. 1b), both adult females, were examined. Definitions of quantitative characters follow Ota (1991). Institutional acronyms are those suggested by Leviton et al. (1985).

RESULTS AND DISCUSSION

Table 1 compares 15 quantitative characters of the types of *A. ornata* and *A. nasuta*. These specimens greatly resembled each other in most characters examined. The

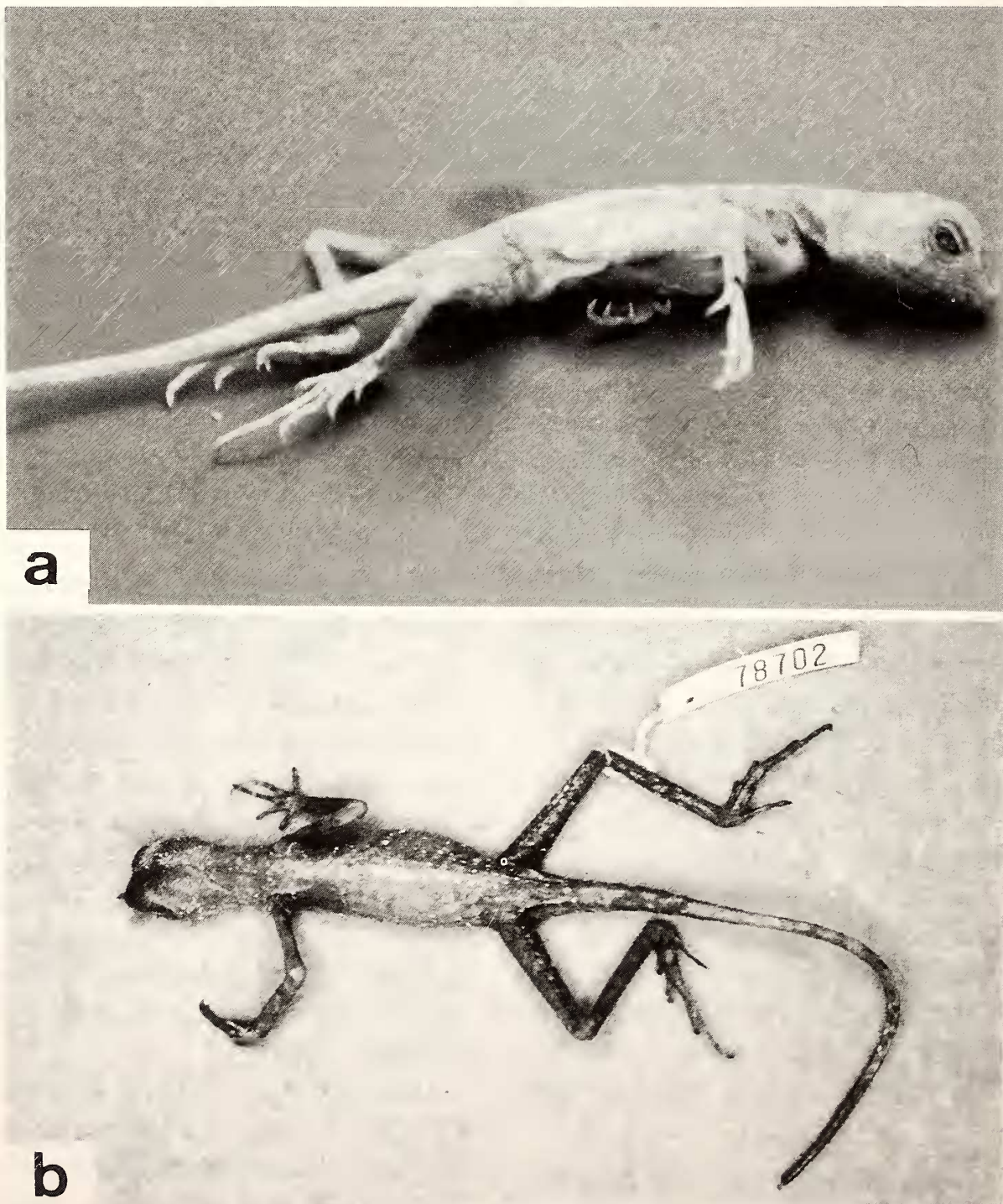


FIG. 1. Holotype of *Aphaniotis ornata* (RMNH 4344, SVL = 54.2 mm) (a), and a paratype of *A. nasuta* (SMF 78702, SVL = 53.5 mm) (b).

TABLE 1. Comparisons of meristic and morphometric characters (in mm) between holotype of *Aphaniotis ornata* (RMNH 4344) and a paratype of *A. nasuta* (SMF 78702). Abbreviations are as follows. SL: supralabials; IL: infralabials; IO: interorbital scales; MSR: scale rows around midbody; FIVS: finger IV subdigital scales; TIVS: toe IV subdigital scales; SVL: snout-vent length; HL: head length; HW: head width; SFL: snout-forelimb length; AGL: axilla-groin length; FLL: forelimb length; HLL: hind-limb length; FIVL: finger IV length; TIVL: toe IV length.

Character	<i>A. ornata</i>	<i>A. nasuta</i>
SL	8	8
IL	7	7
IO	19	22
MSR	80	77
FIVS	18	19
TIVS	21	24
SVL	54.2	53.5
HL (ratio to SVL)	14.0 (25.8%)	14.8 (27.7%)
HW (ratio to SVL)	9.9 (18.3%)	9.7 (18.1%)
SFL (ratio to SVL)	22.4 (41.3%)	21.1 (39.4%)
AGL (ratio to SVL)	25.5 (47.0%)	24.4 (45.6%)
FLL (ratio to SVL)	29.0 (53.5%)	31.0 (57.9%)
HLL (ratio to SVL)	51.1 (94.3%)	54.9 (102.6%)
FIVL (ratio to SVL)	7.6 (14.0%)	7.8 (14.6%)
TIVL (ratio to SVL)	10.6 (19.6%)	11.5 (21.5%)

possible greatest differences lay in the relative fore- (FLL) and hindlimb lengths (HLL) that were somewhat greater in the paratype of *A. nasuta* (57.9% and 102.6% of the snout-vent length [SVL], respectively) than in the holotype of *A. ornata* (53.5% and 94.3%, respectively). Even so, such differences, corresponding to 4.4% of SVL in FLL and 8.3% of SVL in HLL, are well within the extent of variations in corresponding characters among conspecific females from limited geographical ranges reported for other arboreal agamids (e.g., 5.9% of SVL in FLL and 9.3% of SVL in HLL for *Calotes cristatellus* from Sabah [Ota and Hikida, 1991], and 8.5% of SVL in FLL and 12.7% of SVL in HLL for *Japalura swinhonis* from Taiwan [Ota, 1991]).

Between the two specimens, there were also no differences evident in qualitative characters, such as the shape of the rostral appendage and overall coloration. Careful

comparisons of original descriptions of *Aphaniotes ornata* and *A. nasuta* (e.g., Van Lidth de Jeude [1893] and de Jong [1930], both as *Japalura*: see above) also failed to reveal any substantial differences between these nominate species.

According to de Jong (1930), the type series of *A. nasuta* consisted of two males (including the holotype) and four females, all deposited in the Buitenzorg Museum, Java. This museum was largely succeeded by Museum Zoologicum Bogoriense (MZB) after World War II. Indeed, the SMF specimen examined by us was labeled as "Formerly in Mus. Bogor." However, despite our intensive survey of various museum collections including that of MZB, we did not find the holotype or any of the remaining paratypes of *A. nasuta*.

We consider it to be best at present to synonymize *A. nasuta* with *A. ornata*, because comparisons both of available types and of original descriptions strongly suggest

their identity as mentioned above. Further efforts should be made to detect other types, especially the holotype, of *A. nasuta* to verify this account.

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